

# Purchase Order Receipt Listing

Friday, January 13, 2017 10:21:35 AM

All amounts are calculated in domestic currency.

All Vendors PO ID PO34793 All Receipt Dates All Line Item Types  
All Item ID/GL/WOs All Rec. Employees All Currencies  
Grouped by Vendor ID

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
<b>Vendor ID/Vendor Name</b> VU-TWM001 TW Metals											
PO34793	1		M304TR0.500W.035 f		1/12/2017	1/11/2017	20.0000		0.0000	0	\$0.00
USD	No		304 RD Tube .500 x f .035W		24.0000	PLOU01			0.0000	0	
			m136569								
	2		M304TR0.500W.049 f		1/12/2017	1/11/2017	80.0000		0.0000	0	\$0.00
	No		304 RD Tube .500 x f .049W		84.0000	PLOU01			0.0000	0	
			m136569								
	3		M4130NT0.750W.04 f 9		1/12/2017	1/11/2017	23.9170		0.0000	0	\$0.00
	No		4130 RD Tube .750 x.049W		20.0000	PLOU01			0.0000	0	
			m136569								
	4		M4130NT0.750W.08 f 3		1/12/2017	1/11/2017	19.5830		0.0000	0	\$0.00
	No		4130 RD Tube .750 x.083W		20.0000	PLOU01			0.0000	0	
			m136569								
	5		M4130NT1.000W.12 f 0		1/12/2017	1/11/2017	24.0000		0.0000	0	\$0.00
	No		4130 RD Tube 1.00 x f .120wall		20.0000	PLOU01			0.0000	0	
			m136569								
	6		M6061T6T1.000W06 f 5		1/12/2017	1/11/2017	24.0000		0.0000	0	\$0.00
	No		6061T6 RD TUBE 1.00 x .065w		20.0000	PLOU01			0.0000	0	
			m136569								
	7		71401-45		1/12/2017	1/11/2017	1.0000		0.0000	0	\$0.00
	No		PROCUREMENT QUALITY CLAUSES		1.0000	PLOU01			0.0000	0	
			m136569								

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date Required Qty	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
<div>Total Received Quantity: Total Qty to Inspect (PO U/M): Total Reject Quantity: Total Receipt Value: Total Balance Due Quantity:</div>											
<div>192.5000 0.0000 0.0000 \$0.00 0.0000</div>											



O'Neal High-Performance Metals Group



Packing  
Slip

ORDER NO.: 60622788

FROM: CRAN

PAGE 1

CUST NUMBER: 1203820 NET WGT: 75.170 REQ.DATE: 01/12/17 CONFIRMED  
SOLD TO: SHIP TO:  
DART AEROSPACE LTD DART AEROSPACE LTD  
1270 ABERDEEN ST 1270 ABERDEEN ST  
HAWKESBURY ON HAWKESBURY ON  
CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 01/06/17  
TERMS: NET 30 DAYS VIA: COMMON CARRIER  
F.O.B.: SHIPPING POINT FREIGHT: PREPAID  
CUST ORD NO.: PO34793 RELEASE NO.:  
RECEIVING PHONE:

LINE ITEM DESCRIPTION WIDTH LENGTH  
0001 36449 SMLS CD 304/L A269 1/2 OD X .035 WA 20' ML

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT
	20.000 FT	20.000 FT	20.000 FT	3.475

PCS  
1

\*\* 1 TEST REPORTS REQUIRED \*\*

\*\* 1 CERTS REQUIRED \*\*

ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00  
PO:49348005 HT:YX1511521 PC: 1 CUSTOMER QTY: 20.000 UOM FT  
MLT:CHINA MFG:CHINA SLB/CL:7-64

0002 36506 SMLS CD 304/L A269 1/2 OD X .049 WA 20' ML

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT
	80.000 FT	80.000 FT	80.000 FT	18.874

PCS  
4

\*\* 1 TEST REPORTS REQUIRED \*\*

\*\* 1 CERTS REQUIRED \*\*

ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00  
PO:49339077 HT:YX1506712 PC: 4 CUSTOMER QTY: 80.000 UOM FT  
MLT:CHINA MFG:CHINA SLB/CL:9-116

0003 33047 CDS 4130 6736 3/4 X .049 17/24 FT

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT
	20.000 FT	23.917 FT	23.917 FT	8.771

PCS  
1

\*\* 1 TEST REPORTS REQUIRED \*\*

\*\* 1 CERTS REQUIRED \*\*

ECCN: 9A991.d Export License: NLR Expiration Date: 0/00/00  
PO:49353474 HT:598618 PC: 1 CUSTOMER QTY: 23.917 UOM FT  
MLT:GERMANY MFG:GERMANY SLB/CL:1625993

8817-01-11

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE  
PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL  
REVIEW.  
<http://www.twmetals.com/invoice-terms.html>



O'Neal High-Performance Metals Group



# Packing Slip

ORDER NO.: 60622788

FROM: CRAN

PAGE 2

CUST NUMBER: 1203820 NET WGT: 75.170 REQ.DATE: 01/12/17 CONFIRMED  
SOLD TO: SHIP TO:  
DART AEROSPACE LTD DART AEROSPACE LTD  
1270 ABERDEEN ST 1270 ABERDEEN ST  
HAWKESBURY ON HAWKESBURY ON  
CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 01/06/17  
TERMS: NET 30 DAYS VIA: COMMON CARRIER  
F.O.B.: SHIPPING POINT FREIGHT: PREPAID  
CUST ORD NO.: PO34793 RELEASE NO.:  
RECEIVING PHONE:

LINE	ITEM DESCRIPTION	WIDTH	LENGTH
0004	33096 SMLS CD 4130 6736 3/4 OD X .083 WA	17/24 FT	

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	20.000 FT	19.583 FT	19.583 FT	11.578	1

\*\* 1 TEST REPORTS REQUIRED \*\*  
\*\* 1 CERTS REQUIRED \*\*

ECCN: 9A991.d Export License: NLR Expiration Date: 0/00/00  
PO:49316335 HT:587359 PC: 1 CUSTOMER QTY: 19.583 UOM FT  
MLT:GERMANY MFG:GERMANY SLB/CL:1600427

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	20.000 FT	24.000 FT	24.000 FT	27.072	1

\*\* 1 TEST REPORTS REQUIRED \*\*  
\*\* 1 CERTS REQUIRED \*\*

ECCN: 9A991.d Export License: NLR Expiration Date: 0/00/00  
PO:49354259 HT:MM16101444 PC: 1 CUSTOMER QTY: 24.000 UOM FT  
MLT:UNITED STATES MFG:UNITED STATES SLB/CL:143275

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT	PCS
	20.000 FT	24.000 FT	24.000 FT	5.400	2

\*\* 1 TEST REPORTS REQUIRED \*\*  
\*\* 1 CERTS REQUIRED \*\*

ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00  
PO:49295465 HT:17800951 PC: 1 CUSTOMER QTY: 12.000 UOM FT  
MLT: MFG:UNITED STATES SLB/CL:1000333483  
PO:49321087 HT:F001758730001 PC: 1 CUSTOMER QTY: 12.000 UOM FT  
MLT:UNITED STATES MFG:UNITED STATES SLB/CL:672356

## THANK YOU FOR THIS ORDER

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SP17-01/1



O'Neal High-Performance Metals Group



# Packing Slip

ORDER NO.: 60622788

FROM: CRAN

PAGE 3

CUST NUMBER: 1203820      NET WGT: 75.170      REQ.DATE: 01/12/17      CONFIRMED  
SOLD TO:      SHIP TO:  
DART AEROSPACE LTD      DART AEROSPACE LTD  
1270 ABERDEEN ST      1270 ABERDEEN ST  
HAWKESBURY ON      HAWKESBURY ON  
CANADA      ONTARIO CANADA      CN K6A 1K7      CN K6A 1K7

SALESPERSON: DONNA SMALLEY      SHIP BY: 01/06/17  
TERMS: NET 30 DAYS      VIA: COMMON CARRIER  
F.O.B.: SHIPPING POINT      FREIGHT: PREPAID  
CUST ORD NO.: PO34793      RELEASE NO.:  
RECEIVING PHONE:

LINE	ITEM DESCRIPTION	WIDTH	LENGTH
------	------------------	-------	--------

BROKERS KUEHNE AND NAGEL LTD

-----		PACK INFO -----					
AREA	TYPE OF PKG	PKGS	GRS	WEIGHT	WIDTH	LENGTH	HGHT
B	DOUBLE CARTON	1.000		83.000		24.5000	
		1.000		83.000			

BY: WN  
RT 000-

UNLOAD TYPE: NONE SPECIFIED

DATE SHIPPED \_\_\_\_\_

DATE FILLED \_\_\_\_\_

**THANK YOU FOR THIS ORDER**

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**Packing  
Slip**

ORDER NO.: 60622788

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PAGE 4

CUST NUMBER: 1203820    NET WGT: 75.170    REQ.DATE: 01/12/17    CONFIRMED  
SOLD TO:    SHIP TO:  
DART AEROSPACE LTD    DART AEROSPACE LTD  
1270 ABERDEEN ST    1270 ABERDEEN ST  
HAWKESBURY ON    HAWKESBURY ON  
CANADA    CN K6A 1K7    ONTARIO CANADA    CN K6A 1K7

SALESPERSON:    DONNA SMALLEY    SHIP BY:    01/06/17  
TERMS:    NET 30 DAYS    27 ENGLEHARD DRIVE  
F.O.B.:    SHIPPING POINT    MONROE TWP    NJ 08831  
CUST ORD NO.:    PO34793  
VIA:    COMMON CARRIER  
FREIGHT:    PREPAID  
RELEASE NO.:  
RECEIVING PHONE:

"TW Metals MSDS data is available on our web site at [www.twmetals.com](http://www.twmetals.com). MSDS data can be found under the Technical Resources Tab, Product Statistics & Data and the TW Metals MSDS's heading. If you do not have web site access you may telephone 610-458-1300 and we will mail or fax a copy of our current MSDS data to your location."

**"CERTIFICATE OF CONFORMANCE"**

"TW Metals certifies that the material supplied on this purchase order and contained in the heat/lot number referenced above has been manufactured, inspected, and tested in accordance with the material specification. These records are on file at TW Metals. Packaging material for shipments to Europe and China consists of manufactured wood products and complies with the European emergency measures for coniferous non-manufactured wood packing material"

Authorized Test Report Clerk Caps Menniker    Date: 1/05/17

These commodities have been exported from the United States in accordance with the U.S. export control laws, export administrations regulations. Diversion contrary to U.S. law prohibited.

**THANK YOU FOR THIS ORDER**

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PUFA™

Producer of Premium Stainless Steel Seamless Tubes

## MILL TEST REPORT

Purchaser.: TW METALS-Cranbury				Certificate No.: 2016-8-67					
Contract No.: TWM P.O.No.: M49348005				Date of Issue.: 2016.8.10					
Commodity: Stainless Steel Seamless Tubes		Specifications: ASTM A213-15c/ASME SA213-15/ASTM A269-15a EAW							
Process: Cold Drawn		Delivery Condition: OD Polished to 240 Grit							
Steel Grade	Heat Number	Lot Number	Dimensions		Quantity				
					Pieces	Feet			
TP304/TP304L	YX1511-521	7-64	1/2"x0.035"x20"		500	10,000			
Chemical Composition by Weight (%)									
Element	C	Mn	P	S	Si	Cr	Ni	Mo	Co
Requirements	≤0.035	≤2.00	≤0.045	≤0.030	≤1.00	18.00-20.00	8.00-12.00	-	-
Ladle Analysis	0.018	1.25	0.029	0.001	0.39	18.40	8.05	-	-
Product Analysis	0.020	1.22	0.032	0.002	0.38	18.38	8.43	-	-
Mechanical Properties									
Test Item	Elongation (% in 2")		Tensile Strength (PSI) Rm			Yield Strength (PSI) Rp / 0.2%			
Requirements	≥35		≥75,000			≥30,000			
Test Results	61/62		98,000/99,000			44,000/45,000			
Test Item	Reduction of Area Z (%)	Hardness	Cold Bend Test	Flaring Test	Flattening Test	Flange Test	P.M.I. Test		
Requirements	-	HRB≤80	-	22%	e=0.09	-	-		
Test Results	-	77/79	-	Passed	Passed	-	OK		
Test Item	Eddy Current Test	Air Underwater	Ultrasonic Test	Intergranular Corrosion Test	Macroscopic Inspection				
Requirements	ASTM E 426	-	-	ASTM A262 E	End Cut	Appearance			
Test Results	Passed	-	-	OK	OK	OK			

ISO 9001:2008 Certified by CAS 117 16 QU 0053-06 ROS

PED Certified by SZUTEST 2195-PED-1526002

## Additional Remarks:

- (1) All tubes annealed to above 1900 Deg F and water quenched below 800 Deg F in 3 minutes
- (2) All tubes tested per ASTM A1016-14
- (3) Materials is NACE MR0103-2007 compliant (per Section 2.5)
- (4) Materials is NACE MR0175/ISO 15156-2003 compliant (per Section 4.2.1)
- (5) In Compliance with EN 10204-3.1
- (6) In Compliance with RoHS Stipulation
- (7) No weld repair performed
- (8) Free from mercury contamination
- (9) Free from radioactive contamination
- (10) Billets melt and pipes/tubes manufactured in China
- (11) All tubes 100% PMI tested
- (12) All tubes 100% Eddy Current tested

CANNOT CERTIFY COMPLIANCE  
FAR BAA / DFARS BAA / FAR TAA

DAS  
14  
9-89

17/10/12



By:

James Shi

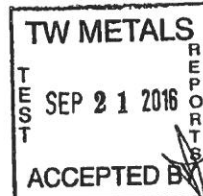
James Shi / Manager

Quality Control Department

We hereby certify that this report is true and correct.

Jiangsu Pufa Stainless Steel Tube Co., Ltd.

No. 99, Xuean Middle Road, Dongchen Town, Rugao City, Jiangsu Province, P.R.China



## MILL TEST REPORT

Purchaser.: TW METALS-Carol Stream				Certificate No.: 15-11-181					
Contract No.: TWM P.O.No.: M49339077				Date of Issue.: 2015.11.7					
Commodity: Stainless Steel Seamless Tubes				Specifications: ASTM A213-13/ASME SA213-13/ASTM A269-14e1 EAW					
Process: Cold Drawn				Delivery Condition: OD Polished to 240 Grit					
Steel Grade	Heat Number	Lot Number	Dimensions				Quantity		
TP304/TP304L	YX1506-712	9-116	1/2" x 0.049" x 20'				Pieces	Feet	
							1000	20,000	
Chemical Composition by Weight (%)									
Element	C	Mn	P	S	Si	Cr	Ni	Mo	Co
Requirements	≤0.035	≤2.00	≤0.045	≤0.030	≤1.00	18.00-20.00	8.00-12.00	-	-
Ladle Analysis	0.013	0.65	0.032	0.002	0.32	18.28	8.05	-	-
Product Analysis	0.017	0.61	0.033	0.002	0.28	18.31	8.55	-	-
Mechanical Properties									
Test Item	Elongation (% in 2")		Tensile Strength (PSI) Rm			Yield Strength (PSI) Rp / 0.2%			
Requirements	≥35		≥75,000			≥30,000			
Test Results	63/64		91,000/92,000			36,000/37,000			
Test Item	Reduction of Area Z (%)	Hardness	Cold Bend Test	Flaring Test	Flattening Test	Flange Test	P.M.I. Test		
Requirements	-	HRB≤80	-	22%	e=0.09	-	-		
Test Results	-	76/78	-	Passed	Passed	-	OK		
Test Item	Eddy Current Test	Air Underwater Pressure Test	Ultrasonic Test	Intergranular Corrosion Test	Macroscopic Inspection				
Requirements	ASTM E 426	-	-	ASTM A262 E	End Cut	Appearance			
Test Results	Passed	-	-	OK	OK	OK			

ISO 9001:2008 Certified by Intertek 110703068

PED Certified by SZUTEST 2195-PED-1526002

## Additional Remarks:

- (1) All tubes annealed to above 1900 Deg F and water quenched below 800 Deg F in 3 minutes
- (2) All tubes tested per ASTM A1016-14
- (3) Materials is NACE MR0103-2007 compliant (per Section 2.5)
- (4) Materials is NACE MR0175/ISO 15156-2003 compliant (per Section 4.2.1)
- (5) In Compliance with EN 10204-3.1
- (6) In Compliance with RoHS Stipulation
- (7) No weld repair performed
- (8) Free from mercury contamination
- (9) Free from radioactive contamination
- (10) Billets melt and pipes/tubes manufactured in China
- (11) All tubes 100% PMI tested
- (12) All tubes 100% Eddy Current tested

**CANNOT CERTIFY COMPLIANCE  
FAR BAA / DFARS BAA / FAR TAA**

DAS  
14  
9-89

17/10/12



By:

James Shi

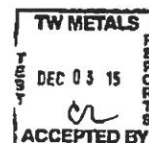
James Shi / Manager

Quality Control Department

We hereby certify that this report is true and correct.

Shanghai Pufa Stainless Steel Pipe Factory

No. 59, Shuangye Road, Wanggang, New Pudong District, Shanghai, China



Benteler Steel/Tube GmbH  
Postfach 13 40  
33043 Paderborn  
Deutschland  
Tel.: +49.5254.81-0 Fax: +49.5254.13666

**BENTELER**  
Steel/Tube

**ABNAHMEPRÜFZEUGNIS EN 10204-3.1**

**INSPECTION CERTIFICATE EN 10204-3.1**

**CERTIFICAT DE RECEPTION EN 10204-3.1**

EN 10204:2005-01

Benteler Steel/Tube GmbH - Postfach 1340 - 33043 Paderborn - Deutschland

TW Metals

The Aboretum, Suite 204

760 Constitution Drive

EXTON PA 19341

USA

Dokument-Nr.: 41-961797/001/P

Document No.:

No. du document:

Kunden-Bestell-Nr.: 46004384 TW M49353474

Purchase Order No.:

No. de commande du client:

Benteler Auftrags-Nr.: 1625993

Benteler Order No.:

No. de commande Benteler:

Versandanzeigen-Nr.: 4170922

Dispatch Note No.:

No. d'avis d'expédition:

Produkt: NAHTLOSE STAHLROHRE

Product: SEAMLESS STEEL TUBES

Produit: TUBES D'ACIER SANS SOUDURE

AMS-T-6736B Type 1, ASTM-A 519-2006, MIL-T-6736B Type 1, AMS6360 Rev. M, AMS 2301K

Lieferbedingungen:

Terms of delivery:

Conditions de livraison:

Maße - Toleranzen:

Dimensions-tolerances:

Dimensions-tolerances:

Stahlsorte:

Steel grade:

Nuance d'acier:

Lieferzustand:

Delivery condition:

État de livraison:

Produktkennzeichnung:

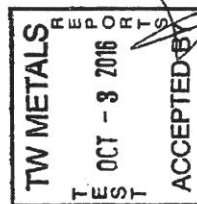
Product marking:

Marquage du produit:

FSD: BENTELER AMS6360M-AMS-T-6736 B 1-MIL-T-6736 B 1-AMS 2301K 4130 Condition N HEAT-NO.

CD AQ S DIMENSIONS WA GERMANY

AZ = Ätzlinienbeschriftung, Etching ink marking, Gravure à l'encre . FK = Farbkennzeichnung, color marking, marquage par couleur . FS = Farbschablonierung, paint stencilling, marquage par peinture . FSD = Farbstrahldrucker, Color jet printer, Imprimante à jet d'encre de couleur . LK = Laserkennzeichnung, Laser marking, Marquage laser . PKE = Etikettenkennzeichnung, tag marking, marquage sur étiquette . PS = Prägestempel, die stamp, marquage par poinçonnage . TS = Tintenstrahlkennzeichnung, Ink jet spray marking, Imprimante à jet d'encre .



**ABNAHMEPRÜFZEUGNIS EN 10204-3.1**

INSPECTION CERTIFICATE EN 10204-3.1  
CERTIFICAT DE RECEPTION EN 10204-3.1

Dokument-Nr.: 41-961797/001/P  
Document No.:  
No. du document:

Blatt: 2 / 4  
Page:  
Page:

Pos.	Stück	Maße	Gesamtlänge	Gewicht	Schmelzen-Nr.	Prüfdruck	Rohr-Nr.-Gruppe	Vielfachlängen
Item	Number	Dimensions	Length total	Weight	Heat No.	Test pressure	Tube number group	Multiple lengths
Poste	Nombre	Dimensions	Longueur totale	Poids	No. de coulée	Pression d'épreuve	Série de no. des tubes	Longueurs multiples
		feet	feet	lbs				
0003	154	0.750" O.D. * 0.049" WT 20 FT - 24 FT	3688,32	1345	598618			

**Schmelzenanalyse [%] / Heat analysis [%] / Analyse sur coulée [%]**

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU
Item	Heat No.									
Poste	No. de coulée									
0003	598618	0,310	0,260	0,54	0,010	0,001	0,88	0,17	0,14	0,17

**Produktanalyse [%] / Product analysis [%] / Analyse sur produit [%]**

Pos.	Schmelzen-Nr.	C	SI	MN	P	S	CR	MO	NI	CU
Item	Heat No.									
Poste	No. de coulée									
0003	598618	0,310	0,280	0,52	0,009	0,001	0,89	0,17	0,12	0,15

**Prüfergebnisse / Test results / Résultats des essais**

Die Rohre wurden zerstörungsfrei geprüft:

The tubes are non destructive tested:

Les tubes ont passé un essai non destructif:

ET-test: acc. to ASTM-A 450; ET - Test method: acc. to ASTM-E 309; for imperfections;

ET-test: ET with rotating pancake coils; according to EN 10246-3; imperfections;

Notch depth: 0,30 mm; notch width < = notch depth; notch length min. 2 x transducer width (max. 50 mm)

PASSED

Augensichtkontrolle:	PASSED	Materialverwechslungsprüfung:	PASSED	Maßkontrolle:	PASSED
Visual inspection:		Material conformity test:		Dimensions examination:	
Examen visuel:		Vérification de la nuance:		Vérification des dimensions:	

**Ergebnisse der mechanischen Prüfung / Results of mechanical testing / Résultats des essais mécaniques**

Die Probenahme erfolgte an Vielfachlängen.

The sampling was carried out on multiple lengths.

L'échantillonnage était réalisé aux longueurs multiples.

Benteler Steel/Tube GmbH  
Postfach 13 40  
33043 Paderborn  
Deutschland  
Tel.: +49.5254.81-0 Fax: +49.5254.13666

**BENTELER**  
Steel/Tube

ABNAHMEPRÜFZEUGNIS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1  
CERTIFICAT DE RECEPTION EN 10204-3.1

Dokument-Nr.: 41-961797/001/P

Document No.:  
No. du document:

Prüf-Nr.:  
Inspection No.:

No. du certificat:

Blatt: 3 / 4

Zugversuch längs bei RT, Vollprobe / Tensile test longitudinal at RT, Full section test specimen / Essai de traction longitudinale à TA, Eprouvette a section complete

Pos.	Proben-Nr.	Schmelzen-Nr.	Probenabmessung	Streckgrenze	Zugfestigkeit	Dehnung
Item	Specimen No.	Heat No.	Specimen dimensions	Yield strength	Tensile strength	Elongation
Poste	No. de l'éprouv.	No. de coulée	Dimensions de l'éprouv.	Limite élastique	Résistance à la traction	Allongement
Anforderungen			mm	Rp 0,2 %	Rm	A2"
Requirements				KSI	KSI	%
Exigences				MIN 75	MIN 95	MIN 12.00
0003	000001	598618	19,05 X	1,25	120	128
0003	000002	598618	19,05 X	1,25	120	128
0003	000003	598618	19,05 X	1,25	118	127
0003	000004	598618	19,05 X	1,25	120	128
0003	000005	598618	19,05 X	1,25	118	128
					DAS128	18,00

14

Randentkohlung / Surface decarburization / Décarburation superficielle

9-89

Pos. / Item / Poste: 0003

acc. to AMS-6360, partial decarburization outside max. 0.009 in, partial decarburization inside max. 0.009 in, partial decarburization outside and inside max. 0.012 in, partial decarburization outside and inside max. 0.305 mm, without total decarburization; partial decarb. out. max.: 0,229 mm; partial decarb. ins. max.: 0,229 mm

Vermerk / Remark / Remarque

Pos. / Item / Poste: 0003

Certificate remarks: The steel grade corresponds to MIL-T-6736B, AMS 6360M, material free from mercury contamination, FAR BAA: 52.225-1 CANNOT COMPLY, DFARS BAA: 252.225-7001 CAN COMPLY, FAR TAA: 52.225-5 CAN COMPLY, No weld repair has been carried out, Country of origin of the material and heat: Germany, Aircraft quality steel acc. to AMS 2301K; see appendix page 1 of 1

Pos. / Item / Poste: 0003

Macroscopic examination: acc. to ASTM-E 381

Pos. / Item / Poste: 0003

Magnetic particle inspec.: acc. to AMS 2301K/ASTM-E 1444, on prematerial

Pos. / Item / Poste: 0003

Grain size: acc. to ASTM-E 112; Grain size and finer: 5; Grain size: Longitudinal structure micrography, On prematerial

Verkäufer(in) / Sales Personnel / Personne chargée : Mr Schwarz, Tel.: 05254 81-204311, Fax: 204391

Benteler Steel/Tube GmbH  
Postfach 13 40  
33043 Paderborn  
Deutschland  
Tel.: +49.5254.81-0 Fax: +49.5254.13666

**BENTELER** 

Steel/Tube

ABNAHMEPRÜFZEUGNIS EN 10204-3.1  
INSPECTION CERTIFICATE EN 10204-3.1  
CERTIFICAT DE RECEPTION EN 10204-3.1

41-961797/001/P

Dokument-Nr.:  
Document No.:  
No. du document:

Prüf-Nr.:  
Inspection No.:  
No. du certificat:

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Page:  
Page:

Paderborn Schloß Neuhaus, 19.09.2016, TEL.: 05254.81-201765 FAX: 05254.81-201752

Abnahmebeauftragter  
Inspection representative

Contrôleur

i.A. THOMAS GOLLAN / GUT

Es wird bestätigt, daß die gelieferten Erzeugnisse den techn. Lieferbedingungen des Auftrages entsprechen. Dieses Dokument wurde mittels EDV erstellt und ist ohne Unterschrift rechtsgültig.  
We certify that the supplied products comply with the order specification. This document was prepared by means of electronic data processing and is valid without signature.  
Nous attestons que les produits livrés sont conformes aux stipulations de la commande. Ce document a été établi par traitement électronique de l'information et est valide sans signature.

Abnahmeprüfzeugnis EN 10204-3.1 / Anhang  
Inspection Certificate EN 10204.3.1 / appendix  
Certificat de réception EN 10204-3.1 / appendice

Dokument-Nr.  
Document No.:  
No. de document:

41-961797/001/P

Blatt: von  
Page: 1 of 1  
Page: de

Halbzeuguntersuchung: Stahlsorte 4130 / Semi finished product examination: grade 4130 / Produit semi-fini: nuance 4130

Schmelzen-Nr. Heat No. Coulée No.	Position Item Poste	Korngröße Grain size Grosseur de grain (ASTM-E 112)	Härbarkeit (min. Anforderungen) Hardenability (min. requirements) Trempeabilité (exigence min.) (ASTM-A 255)		Magnetpulverprüfung Magnetic particle inspection Essai à la poudre magnétique (AMS 2301K)		Makroätzung Macrostructure test Essai de macrostructure (ASTM-E 381)		
		min. 5	J(5/16") min. 35 HRC	J(8/16") min. 28 HRC	F max. 0,34	S max. 0,25	max. S 2	max. R 1	max. C 2
598618 Decarburization Depth	003	9	42	34	0,029	0,024	S 2	R 1	C 2
		Outside 0,000 mm Inside 0,000 mm							
<b>BENTELER</b> Steel/Tube GmbH									

Der Stahl ist frei von Quecksilberverunreinigungen. / The steel is free of mercury contamination. / L'acier est libre des contaminations de mercure.

Paderborn Schloß Neuhaus, 21.09.2016  
Tel.: (0)5254.81-201760 Fax: (0)5254.81-201752

Abnahmebeauftragter  
Inspection representative  
Contrôleur

Thomas Gollan

Benteler Steel/Tube GmbH  
Postfach 13 40  
33043 Paderborn  
Deutschland  
Tel.: +49.5254.81-0 Fax: +49.5254.13666

# BENTELER

Steel/Tube

ABNAHMEPRÜFZEUGNIS EN 10204-3.1  
INSPECTION CERTIFICATE EN 10204-3.1  
CERTIFICAT DE RECEPTION EN 10204-3.1  
EN 10204:2005-01

Benteler Steel/Tube GmbH · Postfach 1340 · 33043 Paderborn · Deutschland  
TW Metals  
The Aboretum, Suite 204  
760 Constitution Drive  
EXTON PA 19341  
USA

Dokument-Nr.: 41-832030/002/P

Document No.:  
No. du document:

Kunden-Bestell-Nr.: 46002429 TW M49316335

Purchase Order No.:  
No. de commande du client:

Benteler Auftrags-Nr.: 1600427

Benteler Order No.:  
No. de commande Benteler:

Versandanzeigen-Nr.: 4188698

Dispatch Note No.:  
No. d'avis d'expédition:

Produkt: NAHTLOSE STAHLROHRE

Product: SEAMLESS STEEL TUBES

Produit: TUBES D'ACIER SANS SOUDURE

AMS-T-6736B Type 1, ASTM-A 519-2006, MIL-T-6736B Type 1

Lieferbedingungen:

Terms of delivery:

Conditions de livraison:

Maße - Toleranzen:

Dimensions - tolerances:

Dimensions - tolérances:

Stahlsorte:

Steel grade:

Nuance d'acier:

Lieferzustand:

Delivery condition:

État de livraison:

Produktkennzeichnung:

Product marking:

Marquage du produit:

FSD: BENTELER AMS-T-6736 B 1-MIL-T-6736 B 1-4130 N HEAT-NO. CD AQ S DIMENSIONS WA  
GERMANY

Prüf-Nr.:  
Inspection No.:  
No. du certificat:

Hersteller:  
Manufacturer:

Producteur:

Herstellerzeichen:  
Manufacturer's brand:

Marque du producteur:

Stempel des Abnahmebeauftragten: WA

Stamp of the inspection representative:

Poinçon du contrôleur:

Stahlschmelzungsverfahren: ELEKTROSTAHL

Steelmaking process: ELECTRIC FURNACE

Procédé d'élaboration de l'acier: FOUR ELECTRIQUE

AMS 2253E-83, Aircraft Type, Seamless, Cold Finished

GRADE 4130, AMS 6360M and AMS 6371K

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TW METALS

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AEZ = Ätzlinienbeschriftung, Etching ink marking, Gravure à l'encre · FK = Farbkennzeichnung, colour marking, marquage par couleur · FS = Farbschablonierung, paint stencilling, marquage par peinture · FSD = Farbstahldrucker, Colour jet printer, Imprimante à jet d'encre de couleur · LK = Laserkennzeichnung, Laser marking, Marquage laser · PKE = Etikettenkennzeichnung, tag marking, marquage sur étiquette · PS = Prägestempel, die stamp, marquage par poinçonnage · TS = Tintenstrahlkennzeichnung, ink jet spray marking, imprimante à jet d'encre

Benteler Steel/Tube GmbH  
Postfach 13 40  
33043 Paderborn  
Deutschland  
Tel.: +49.5254.81-0 Fax: +49.5254.13666



Steel/Tube

# ABNAHMEPRÜFZEUGNIS EN 10204-3.1

INSPECTION CERTIFICATE EN 10204-3.1  
CERTIFICAT DE RECEPTION EN 10204-3.1

Dokument-Nr.: 41-832030/002/P

Inspection No.:  
No. du certificat:

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Page:

Pos.	Stück Item	Maße Number	Dimensions	Länge Length	Gewicht Weight	Schmelzen-Nr. Heat No.	Prüfdruck Test pressure	Rohr-Nr.-Gruppe Tube number group	Vielfachlängen Multiple lengths
				feet	Poids lbs	No. de coulée	Pression d'épreuve	Série de no. des tubes	Longueurs multiples
0016	221	0.750" O.D. * 0.083" WT 17 FT - 24 FT		4335,89	2531	587359			

## Schmelzenanalyse [%] / Heat analysis [%] / Analyse sur coulée [%]

Pos.	Schmelzen-Nr. Item	C	SI	MN	P	S	CR	MO	NI	CU
	Heat No. Poste									
0016	587359	0,320	0,260	0,56	0,006	0,001	0,88	0,17	0,13	0,13
Produktanalyse [%] / Product analysis [%] / Analyse sur produit [%]										
Pos.	Schmelzen-Nr. Item	C	SI	MN	P	S	CR	MO	NI	CU
	Heat No. Poste									
0016	587359	0,310	0,280	0,56	0,006	0,001	0,87	0,16	0,12	0,12

## Prüfergebnisse / Test results / Résultats des essais

Die Rohre wurden zerstörungsfrei geprüft:  
The tubes are non destructive tested:  
Les tubes ont passé un essai non destructif:

ET-test: acc. to ASTM-A 450; ET - Test method: acc. to ASTM-E 309; for imperfections;  
ET-test: ET with rotating pancake coils; according to EN 10246-3; imperfections;  
Notch depth: 0,30 mm; notch width < = notch depth; notch length min. 2 x transducer width (max. 50 mm)

Augensichtkontrolle: Visual inspection: Examen visuel:	PASSED	Materialverwechslungsprüfung: Material conformity test: Vérification de la nuance:	PASSED	Maßkontrolle: Dimensions examination: Vérification des dimensions:	PASSED
--	--------	--	--------	--	--------

## Ergebnisse der mechanischen Prüfung / Results of mechanical testing / Résultats des essais mécaniques

Die Probenahme erfolgte an Vielfachlängen.  
The sampling was carried out on multiple lengths.  
L'échantillonnage était réalisé aux longueurs multiples.

TW METALS

ACCEPTED BY S  
OCT 09 2014

Benteler Steel/Tube GmbH  
Postfach 13 40  
33043 Paderborn  
Deutschland  
Tel.: +49.5254.81-0 Fax: +49.5254.13666

**BENTELER**  
Steel/Tube

**ABNAHMEPRÜFZEUGNIS EN 10204-3.1**

INSPECTION CERTIFICATE EN 10204-3.1  
CERTIFICAT DE RECEPTION EN 10204-3.1

Zugversuch längs Vollprobe / Tensile test longitudinal Full section test specimen / Essai de traction longitudinale Eprouvette a section complete

Dokument-Nr.: 41-832030/002/P  
Document No.:  
No. du document:

Prüf-Nr.:  
Inspection No.:  
No. du certificat:

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Page: Page:

Pos.	Proben-Nr.	Schmelzen-Nr.	Probenabmessung	Streckgrenze	Zugfestigkeit	Dehnung	Einschnürung
Item	Specimen No.	Heat No.	Specimen dimensions	Yield strength	Tensile strength	Elongation	Area reduction
Poste	No. de l'éprouvette	No. de coulée	Dimensions de l'éprouv.	Limite élastique	Résistance à la traction	Allongement	Coefficient de striction
Anforderungen			mm	Rp 0,2 %	Rm	A2"	1. Formel
Requirements				PSI	PSI	%	1. Formule
Exigences				MIN 75000	MIN 95000	MIN 12.00	1. Formule
0016	000001	587359	19,05 X 2,10	101817	120381	20,00	
0016	000002	587359	19,05 X 2,10	104427	120817	20,00	
0016	000003	587359	19,05 X 2,10	105152	119801	20,00	
0016	000004	587359	19,05 X 2,10	103267	121687	20,00	
0016	000005	587359	19,05 X 2,10	104572	120962	20,00	
Randentkohlung / Surface decarburization / Décarburation superficielle							
Pos. / Item / Poste: 0016				14	17/01/13		
acc. MIL-T-6736B / AMS-T-6736B, decarburization outside max. 0.356 mm, decarburization outside + inside max. 0.46 mm				9-89			

T W METALS			
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DEC 09 2014			
ACCEPTED BY S			

Vermerk / Remark / Remarque

Pos. / Item / Poste: 0016

Certificate remarks: The steel grade corresponds to MIL-T-6736B, AMS 6360M and AMS 6371K, material free from mercury contamination, FAR BAA: 52.225-1 CANNOT COMPLY, DFARS BAA: 252.225-7001 CAN COMPLY, FAR TAA: 52.225-5 CAN COMPLY, No weld repair has been carried out, Country of origin of the material and heat: Germany; see appendix page 1 of 1

Pos. / Item / Poste: 0016

Macroscopic examination: acc. to ASTM-E 381

Pos. / Item / Poste: 0016

Magnetic particle inspection: acc. to AMS 2301 G/2640, on prematerial

Pos. / Item / Poste: 0016

Grain size: acc. to ASTM-E 112; Grain size and finer: 5; Grain size: Longitudinal structure micrography, On prematerial

Verkäufer(in) / Sales personnel / Personne chargée : Mr Schwarz, Tel.: 05254 81-204311, Fax: 204388

TW METALS  
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OCT 09 2014  
ACCEPTED BY S

Benteler Steel/Tube GmbH  
Postfach 13 40  
33043 Paderborn  
Deutschland  
Tel.: +49 5254.81-0 Fax: +49 5254.13666

**BENTELER**  
Steel/Tube

ABNAHMEPRÜFZEUGNIS EN 10204-3.1

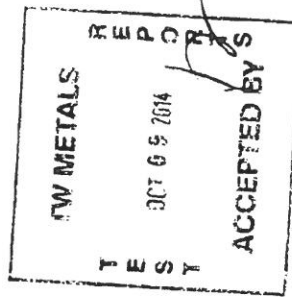
INSPECTION CERTIFICATE EN 10204-3.1  
CERTIFICAT DE RECEPTION EN 10204-3.1

41-832030/002/P

Dokument-Nr.:  
Document No.:  
No. du document:

Prüf-Nr.:  
Inspection No.:  
No. du certificat:

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Paderborn Schloß Neuhaus, 14.09.2014, TEL.: 05254.81-201767 FAX: 05254.81-201752

Abnahmebeauftragter  
Inspection representative

Contrôleur

THOMAS GOLLAN / TEM

Es wird bestätigt, daß die gelieferten Erzeugnisse den techn. Lieferbedingungen des Auftrages entsprechen. Dieses Dokument wurde mittels EDV erstellt und ist ohne Unterschrift rechtsgültig.  
We certify that the supplied products comply with the order specification. This document was prepared by means of electronic data processing and is valid without signature.  
Nous attestons que les produits livrés sont conformes aux stipulations de la commande. Ce document a été établi par traitement électronique de l'information et est valide sans signature.

Abnahmeprüfzeugnis EN 10204-3.1 / Anhang  
**Inspection Certificate EN 10204.3.1 / appendix**  
Certificat de réception EN 10204-3.1 / appendice

Dokument-Nr.  
**Document No.:**  
No. de document:

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**Page:** 1 of 1  
Page: de

Halbzeuguntersuchung: Stahlsorte 4130 / Semi finished product examination: grade 4130 / Produit semi-fini: nuance 4130

Schmelzen-Nr. Heat No. Coulée No.	Position Item Poste	Korngröße Grain size Grosseur de grain (ASTM-E 112)	Härtbarkeit (min. Anforderungen) Hardenability (min. requirements) Trempeabilité (exigence min.) (ASTM-A 255)	Magnetpulverprüfung Magnetic particle inspection Essai à la poudre magnétique (AMS 2301G / 2640J)	Makroätzung Macrostructure test Essai de macrostructure (ASTM-E 381)
587359	016	min. 5 10 Outside 0,000 mm	J(5/16") min. 35 HRC 41 Inside 0,030 mm	F max. 0,34 S max. 0,25 0,029 0,020	max. S 2 max. R 1 max. C 2 S 2 R 1 C 2

TEST  
ACCEPTED BY  
T W METALS  
OCT 09 2014

Der Stahl ist frei von Quecksilberverunreinigungen. / The steel is free of mercury contamination. / L'acier est libre des contaminations de mercure.

Paderborn Schloß Neuhaus, 14.09.2014  
Tel.: (0)5254 81-201760 Fax: (0)5254 81-201752

Abnahmebeauftragter  
**Inspection representative**  
Contrôleur

Thomas Gollan



# PLYMOUTH TUBE CO. USA®

212 Industrial Park Road, Eupora, Mississippi 39744  
Phone: (662) 258-2420 Fax: (662) 258-2075

## PRODUCT CERTIFICATION

SALES ORDER - LINE / RLS

143275 - 1 / 3

### SHIP TO

TW Metals  
27 Englehard Drive  
Monroe Township, NJ 08831  
USA

WORK ORDER A43275  
HEAT NUMBER MM16101444  
MELT SOURCE Nucor Steel - USA Melt/Mfg



CUSTOMER P.O.	CUSTOMER PART	QUANTITY	LADING NO	CERT ID / REV	CERT DATE							
M 49354259	33364	2,697.0 ft	00087888	01	08/15/2016							
<b>PART DESCRIPTION</b> H10001200J002 OD: 1.0000" Max: 1.0050" Min: 0.9950" Wall: 0.1200" Max: 0.1320" Min: 0.1080" Length: 20.00' / 24.00' Lgth Tol: RANDOM CUT LENGTH Lgth: 20.00' / 24.00' Spec: Mil-T 6736B Seamless Aircraft Grade: 4130 Finish: Cond N												
<div style="float: right; border: 1px solid black; padding: 5px; text-align: center;"> <b>TW METALS</b>            TEST            AUG 22 2016            ACCEPTED BY         </div> <div style="clear: both;"></div>												
<b>CERTIFICATION REQUIREMENTS</b> This material was Eddy Current tested and conforms to the requirements of ASTM A-450. The Grain size is determined and reported by the raw material supplier in accordance to ASTM E-112. This raw material was magnetic particle inspected by the raw material supplier in accordance to AMS 2640J and/or ASTM E-1444, and rated as Frequency, and Severity to AMS 2301, latest revision. Yield is determined by using the 0.2% offset method.												
<b>Chemical Analysis</b>												
C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Ti	Al	Sn
.31	.53	.008	.005	.23	.17	.13	1.04	.218	.0024	.002	.023	.007
<b>Physical Properties</b>												
Freq.	Severity	Grain Size										
.000	.000	6										
<b>Mechanical Properties</b>												
<b>TEST</b>	<b>UNITS</b>	<b>#TESTS</b>	<b>HIGH</b>	<b>LOW</b>	<b>AVERAGE</b>	<b>STD-DEV</b>						
Tensile	.Psi	3	107900	105700	107133	1242						
Yield	Psi	3	100500	92100	97267	4521						
Elongation	%	3	21	20	21	1						
<b>TEST</b>	<b>RESULT</b>											
Decarb/OD	Pass											
Total ID/OD decarb	Pass											
<b>TEST</b>	<b>UNITS</b>	<b>#TESTS</b>	<b>HIGH</b>	<b>LOW</b>	<b>AVERAGE</b>	<b>STD-DEV</b>						
Rockwell C	Rc	3	22	21	21	1						
Rockwell B	Rb											

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Eupora in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube. Product free from hazardous materials.

*Don E. Young*  
Quality Assurance



**PLYMOUTH TUBE CO. USA®**

212 Industrial Park Road, Eupora, Mississippi 39744  
Phone: (662) 258-2420 Fax: (662) 258-2075

## PRODUCT CERTIFICATION

SALES ORDER - LINE / RLS

143275 - 1 / 3

**SHIP TO**

TW Metals  
27 Englehard Drive  
Monroe Township, NJ 08831  
USA

WORK ORDER A43275  
HEAT NUMBER MM16101444  
MELT SOURCE Nucor Steel - USA Melt/Mfg



CUSTOMER P.O.	CUSTOMER PART	QUANTITY	LADING NO	CERT ID / REV	CERT DATE
M 49354259	33364	2,697.0 ft	00087888	01	08/15/2016
PART DESCRIPTION		H10001200J002			
Additional Specification(s)					
AMS-T6736 B, AMS 6360M					
<p>This test report data is for the heat Chemistry Stated above. Drawn in the USA</p> <p>—End of Certification—</p>					

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Eupora in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube. Product free from hazardous materials.

*Dean G. Young*  
Quality Assurance

# Certified Inspection Report

Alcoa Forgings and Extrusions  
Lafayette Operations  
3131 East Main Street  
Lafayette, IN  
47905-7500



Alcoa, Inc.

Invoice To Customer  
TW METALS INC  
THE ARBORETUM SUITE 204  
760 CONSTITUTION DR  
EXTON, PA - 19341

Ship To Customer  
TW METALS INC  
235 W. TUBEWAY  
CAROL STREAM, IL - 60188

Sales Order Number		Customer P/O		Cert Number	Page
1000333-483		49295465-001 / ITEM 43284		AEPI 652838	1/3
Line No.	4.1			Cert Print Date	
				09-AUG-13	

Quantity Shipped	Date Shipped	Item Description
776 LB	08-AUG-13	Drawn Tube OD X WALL 1.000 OD x 0.065 WALL
B/L	Item No.	144 IN LN 6061 / T6
2099248	G03272119	W/F 0.225
Delivery ID	Item No. Rev	Marking - CONF - Oiling N
8598850		AMS-4082 REV P
Customer Part No		AMS-WW-T-700/6 REV B
		ASTM B210 REV 12
		CP49-7.4.2-005 REV 7
		WW-T-700/6 REV F, AM2, NOT 1

## Notes

COMPOSITION NOTE: The values for 'Others Each' and 'Others Total' have met the limits as shown on this certified inspection report. Remainder is Aluminum.

## Legal Statement

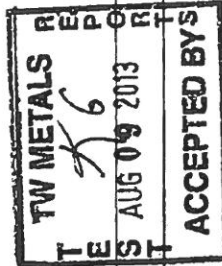
We hereby certify that, unless otherwise indicated, the material covered by this report has been manufactured, inspected, and tested in accordance with, and has been found to meet, the applicable requirements described herein, including any specifications forming a part of the description and that samples representative of the material met the composition and had the mechanical properties shown on the face of this certification. Also, note that mercury is not a normal contaminant in aluminum alloys and neither it nor any of its compounds are used in the manufacture of our product. This certification is not to be reproduced in partial form without prior written approval of our Quality Assurance Dept.

## Signature And Title

*Melissa Griffith*

Melissa Griffith  
Quality Control Manager

09-AUG-13



## Quantities per Lot / Packages

Package Number	Lot Number	Quantity	UOM	Gross Weight	Net Weight
G17-PKG608442	17800951	95	PCS	278	257
G17-PKG608443	17800951	95	PCS	278	257
G17-PKG608446	17800951	97	PCS	284	262

## Composition Limits

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti
6061	0.40	0.7	0.15	0.15	0.8	0.04	0.25	---
	Max		0.40		1.2	0.35		0.15
Others Each	---	---	---	---	---	---	---	---
Others Total	0.05	---	---	---	---	---	---	---
6061	Min	---	---	---	---	---	---	---
	Max	---	---	---	---	---	---	---

## Composition Results

Heat / Cast / Lot Number	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti
6890-L23	0.40	0.22	0.26	0.05	0.9	0.05	0.05	0.02

KG

# Certified Inspection Report

Alcoa Forgings and Extrusions  
Lafayette Operations  
3131 East Main Street  
Lafayette, IN  
47905-7500



Cert Number AEP1652838	Page 2/3
09-AUG-13	Cert Print Date 09-AUG-13

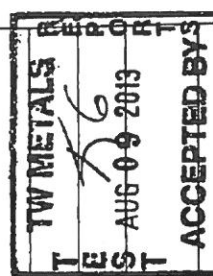
Sales Order Number 1000333483	Customer P/O 49295465-001 / ITEM 43284
Line No. 4.1	

Heat / Cast / Lot Number	Others Each	Others Total
6890-L23	--	--

Mechanical Property - Test Results			
Test Type	UOM	UTS - L	TYS - L
# of Tests		KSI	KSI
Piece / Test ID			
Lot Number		Results	Results
T6	17800951	47.0	42.6
			21.2

Other - Test Limits			
Test Type	UOM	Min	Max
# of Tests			
Lot Number			
SPEC LIMITS		P	--

Other - Test Results			
Test Type	UOM	Dimensional	
# of Tests			
Lot Number			
Results			
T6	17800951	P	



K6

Alcoa Forgings and Extrusions  
Lafayette Operations  
3131 East Main Street  
Lafayette, IN  
47905-7500



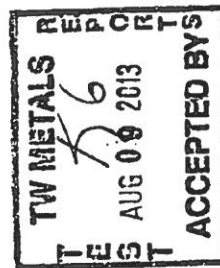
## Certified Inspection Report

Sales Order Number			Customer P/O	Cert Number	Page
1000333483	Line No.	4.1	49295465-001 / ITEM 43284	AEP1652838	3/3
				09-AUG-13	Cert Print Date
				09-AUG-13	09-AUG-13

### Cert Notes

Made in USA

The test report shall not be reproduced except in full, without the written approval of the Quality Department. No alteration, addition or other change is authorized to be made to this certificate. The recording of false, fictitious, or otherwise fraudulent statements or entries on this certificate by any recipient may be punished as a felony under applicable law.



KG

# KAISER ALUMINUM

FABRICATED PRODUCTS

*Best in Class*

## CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM  
FABRICATED PRODUCTS, LLC  
5205 KAISER DRIVE  
KALAMAZOO, MI 49048

CUSTOMER PO NUMBER: M49321087-1		CUSTOMER PART NUMBER: 43284		PRODUCT DESCRIPTION: Seamless Tube/Pipe	
KAISER ORDER NUMBER: 672356	LINE ITEM: 001	SHIP DATE: 11/11/2014	KAISER LOT NUMBER: F00175873	ALLOY: 6061	TEMPER: T8
WEIGHT SHIPPED: 552.000-LB	QUANTITY: 205.000 PCS	B/L NUMBER: 610343	DIAM/DAF/THKNS:	WIDTH:	LENGTH: 12.000 FT
SHIP TO: TW METALS INC 27 ENGLEHARD DRIVE EXIT 8A OFF NJ TPK MONROE TWP, NJ 08831 USA			SOLD TO: TW METALS INC 760 CONSTITUTION DRIVE SUITE 204 EXTON, PA 19341 USA		

### Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CONDUCT.	BEND
F00175873	0001	1	45.9	41.3	14.5	N/A	N/A	N/A
F00175873	0002	1	45.7	41.9	14.0	N/A	N/A	N/A

### Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
D73667	.59	.30	.28	.06	.95	.07	.05	.02	.00	.00	.00	.01	.02
D73666	.63	.33	.26	.06	1.01	.08	.07	.02	.00	.00	.00	.01	.02

### Applicable Requirements:

Description: OD: 1.000"; Wall: 0.065"; Round @  
AMS-4082P AMS-WW-T-700/6B ASTM B210-12 WW-T-700/6F  
WE TAKE EXCEPTION TO PARA. 5.2.1., Per AMS-4082P, WAS NOT OILED.  
This Product Complies to FAR BAA, DFARS BAA, FAR TAA  
COMPLIES TO DIN EN 10204 JAN 2005  
No Weld Repair. Mercury Free.

### Miscellaneous Notes

MANUFACTURED IN USA (CHANDLER, AZ) MELTED IN USA  
MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA  
(DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5  
TRADE AGREEMENTS).



Plant Serial: 00154697  
Kaiser Order Number: 672356  
Line Item: 001

**KAISER**  
**ALUMINUM**  
**FABRICATED PRODUCTS**

*Best in Class*

**CERTIFIED TEST REPORT**

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM  
FABRICATED PRODUCTS, LLC  
5205 KAISER DRIVE  
KALAMAZOO, MI 49048

**CERTIFICATION**

Kaiser Aluminum Fabricated Products, LLC ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file subject to examination.

Aimee L. Macnowski, Quality & Technology Manager

*Aimee L. Macnowski*

Plant Serial: 00154697  
Kaiser Order Number: 672356  
Line Item: 001

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304TR.500W.049

PO / BATCH NO: 34793/136569

DATE: 17/01/14

MATERIAL CERT REC'D: Y

THICKNESS ORDERED: .049W

QUANTITY RECEIVED: 80

THICKNESS RECEIVED: .045W

QUANTITY INSPECTED: 80

SHEET SIZE ORDERED: \_\_\_\_\_

QUANTITY REJECTED: \_\_\_\_\_

SHEET SIZE RECEIVED: \_\_\_\_\_

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORROSION	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORRECT MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	304
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	.045W
PHOTO REQUIRED	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
CORRECT MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	ASTM A213 ASTM A269
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	HEAT # YX1506712
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	M304TR.500W.049
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	M136569
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	

*testers located in the Quality Office*

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____		
DATE: <u>17/01/12</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: AL6061T6T1.DODD.W.065

PO / BATCH NO: 34793/136569

DATE: 17/01/12

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 24'  
 QUANTITY INSPECTED: 24'  
 QUANTITY REJECTED: \_\_\_\_\_

THICKNESS ORDERED: .065  
 THICKNESS RECEIVED: .060  
 SHEET SIZE ORDERED: \_\_\_\_\_  
 SHEET SIZE RECEIVED: \_\_\_\_\_

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/>	N	
CORROSION	Y	<input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/>	N	
CORRECT MATERIAL	<input checked="" type="checkbox"/>	N	<u>6061T6</u>
CORRECT THICKNESS	<input checked="" type="checkbox"/>	N	<u>.060</u>
PHOTO REQUIRED	Y	<input checked="" type="checkbox"/>	
CORRECT MATERIAL	<input checked="" type="checkbox"/>	N	<u>AMS QQ-A-200/8 ASTM B240</u>
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/>	N	<u>HEAT # 17800951</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/>	N	<u>AL6061T6T1.DODD.W.065</u>
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/>	N	<u>M136569</u>
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	

*testers located in the Quality Office*

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS 14</u>	SIGNED OFF BY: _____		
DATE: <u>17/01/12</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304TR0.500W.035

PO / BATCH NO: 34793/136569

DATE: 17/01/12

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 20'  
 QUANTITY INSPECTED: 20'  
 QUANTITY REJECTED: \_\_\_\_\_

THICKNESS ORDERED: .035  
 THICKNESS RECEIVED: .030  
 SHEET SIZE ORDERED: \_\_\_\_\_  
 SHEET SIZE RECEIVED: \_\_\_\_\_

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORROSION	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORRECT MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	304
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	.030
PHOTO REQUIRED	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
CORRECT MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	ASTM A213 ASTM A269
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	HEAT# 9X15T1521
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	M304TR0.500W.035
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	M136569
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW				
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D

*testers located in the Quality Office*

<b>QC 18 INSPECTION</b>		<b>ENGINEERING SIGNOFF (if required)</b>	
INSPECTED BY: <u>14</u>	SIGNED OFF BY: _____		
DATE: <u>17/01/12</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M4130 NTO.750W.049

PO / BATCH NO: 34793/136569

DATE: 17/01/13

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 24  
 QUANTITY INSPECTED: 24  
 QUANTITY REJECTED: \_\_\_\_\_

THICKNESS ORDERED: .049  
 THICKNESS RECEIVED: .045  
 SHEET SIZE ORDERED: \_\_\_\_\_  
 SHEET SIZE RECEIVED: \_\_\_\_\_

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/>	
CORROSION	Y <input type="radio"/> N <input checked="" type="radio"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/>	
CORRECT MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/>	<u>4130</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/>	<u>.045</u>
PHOTO REQUIRED	Y <input type="radio"/> N <input checked="" type="radio"/>	
CORRECT MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/>	<u>MIL-T-6736</u>
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/>	<u>HEAT# 598618</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/>	<u>M4130 NTO.750W.049</u>
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N <input type="radio"/>	<u>M136569</u>
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input type="radio"/> N <input checked="" type="radio"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input type="radio"/> N <input checked="" type="radio"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW				
	HRC	HRB	DUR A	DUR D
TYPE OF MATERIAL				
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

*testers located in the Quality Office*

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>14 9-89</u> DATE: <u>17/01/13</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M4130 NTO.750W.083

PO / BATCH NO: 34793/136569

DATE: 17/01/13

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 20 19.5  
 QUANTITY INSPECTED: 20 19.5  
 QUANTITY REJECTED: \_\_\_\_\_

THICKNESS ORDERED: .083  
 THICKNESS RECEIVED: .083  
 SHEET SIZE ORDERED: \_\_\_\_\_  
 SHEET SIZE RECEIVED: \_\_\_\_\_

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y	N	
CORROSION	Y	<input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	N	
CORRECT MATERIAL	<input checked="" type="radio"/> Y	N	<u>4130</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y	N	<u>.083</u>
PHOTO REQUIRED	Y	<input checked="" type="radio"/> N	
CORRECT MATERIAL	<input checked="" type="radio"/> Y	N	<u>MIL-T-6736</u>
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	N	<u>HEATH 587359</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	N	<u>M4130 NTO.750W.083</u>
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	N	<u>M136569</u>
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	

*testers located in the Quality Office*

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____		
DATE: <u>17/01/13</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M4130 NT 1.000W.120

PO / BATCH NO: 34793/136569

DATE: 17/01/13

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 24'  
 QUANTITY INSPECTED: 24'  
 QUANTITY REJECTED: \_\_\_\_\_

THICKNESS ORDERED: .120  
 THICKNESS RECEIVED: .117  
 SHEET SIZE ORDERED: \_\_\_\_\_  
 SHEET SIZE RECEIVED: \_\_\_\_\_


DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y N	
CORROSION	Y <input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y N	
CORRECT MATERIAL	<input checked="" type="checkbox"/> Y N	4130
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y N	.117
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N	
CORRECT MATERIAL	<input checked="" type="checkbox"/> Y N	MIL-T-6731
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y N	HEAT # MM16101444
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y N	M4130 NT 1.000W.120
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y N	M136569
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW				
	HRC	HRB	DUR A	DUR D
TYPE OF MATERIAL				
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>14</u> <u>9-89</u>	SIGNED OFF BY: _____		
DATE: <u>17/01/13</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

**PURCHASE ORDER**  
  
**Purchase Order ID PO34793**  
  
**Purchase Order Date** 1/4/2017  
**PO Print Date** 1/4/2017

Page Number 1 of 4

**Order From :**  
TW METALS  
PO BOX 933014  
ALTANTA, GA 31193-3014  
US

VU-TWM001

**Ship To :** DART AEROSPACE LTD  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

JAN 02 2017

E-MAILED

**Contact Name**  
**Vendor Phone** 585 768 5600  
  
**Ship To Contact**  
**Ship To Phone**  
**Ship Via:** YRC COLLECT  
**Ship Acct:**

**Buyer** Chantal Lavoie  
**Customer POID**  
**Customer Tax #** 10127-2607  
**Terms** Net 30  
**Currency** USD  
**FOB** FCA – (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	M304TR0.500W.035	304 RD Tube .500 x .035W	1/12/2017 Yes 1/12/2017		24.00 f 20ft	\$1.50	\$36.00
MATERIAL: AISI 304/316 SA SEAMLESS ROUND TUBING AS PER ASTM A213 OR AMSE SA213 OR ASTM A269							
Line Total:							\$36.00
2	M304TR0.500W.049	304 RD Tube .500 x .049W	1/12/2017 Yes 1/12/2017		84.00 f 80ft	\$2.80	\$235.20
MATERIAL: AISI 304/316 SA SEAMLESS ROUND TUBING AS PER ASTM A213 OR AMSE SA213 OR ASTM A269							
Line Total:							\$235.20

Note:



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO34793**

Purchase Order Date 1/4/2017

PO Print Date 1/4/2017

Page Number 2 of 4

Order From :  
TW METALS  
PO BOX 933014  
ALTANTA, GA 31193-3014  
US

VU-TWM001

Ship To : DART AEROSPACE LTD  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Contact Name  
Vendor Phone 585 768 5600

Ship To Contact  
Ship To Phone  
Ship Via: YRC COLLECT  
Ship Acct:

Buyer Chantal Lavoie  
Customer POID  
Customer Tax # 10127-2607  
Terms Net 30  
Currency USD  
FOB FCA - (Free Carrier)

3	M4130NT0.750W.049	4130 RD Tube .750 x.049W	1/12/2017	20.00	\$6.00	\$120.00
---	-------------------	-----------------------------	-----------	-------	--------	----------

Yes  
1/12/2017

MATERIAL: AISI 4130N SEAMLESS STEEL TUBING  
AS PER MIL-T-6736 OR AMS 6371/6360/6361  
6362/6373/6374

f new  
23-917

Line Total: \$120.00

4	M4130NT0.750W.083	4130 RD Tube .750 x.083W	1/12/2017	20.00	\$3.85	\$77.00
---	-------------------	-----------------------------	-----------	-------	--------	---------

Yes  
1/12/2017

MATERIAL: AISI 4130N SEAMLESS STEEL TUBING  
AS PER MIL-T-6736 OR AMS 6371/6360/6361  
6362/6373/6374

f new  
19.583  
817-0-11

Line Total: \$77.00

Note:

1/4/2017



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO34793**

Purchase Order Date 1/4/2017

PO Print Date 1/4/2017

Page Number 3 of 4

**Order From :**

TW METALS  
PO BOX 933014  
ALTANTA, GA 31193-3014  
US

VU-TWM001

**Ship To :** DART AEROSPACE LTD  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**Contact Name**

**Vendor Phone** 585 768 5600

**Ship To Contact**

**Ship To Phone**

**Ship Via:**

**Ship Acct:**

YRC COLLECT

**Buyer**

Chantal Lavoie

**Customer POID**

**Customer Tax #**

10127-2607

**Terms**

Net 30

**Currency**

USD

**FOB**

FCA - (Free Carrier)

5 M4130NT1.000W.120

4130 RD Tube 1.00 x  
.120wall

1/12/2017

20.00

\$2.75

\$55.00

Yes

1/12/2017

MATERIAL: AISI 4130N SEAMLESS STEEL TUBING  
AS PER MIL-T-6736 OR AMS 6371/6360/6361  
6362/6373/6374

**Line Total:**

**\$55.00**

6 M6061T6T1.000W065

6061T6 RD TUBE 1.00 x  
.065w

1/12/2017

20.00

\$2.96

\$59.20

Yes

1/12/2017

MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING  
AS PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR  
AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR  
ASTM B241

**Line Total:**

**\$59.20**

**Note:**

1/4/2017



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO34793**

Purchase Order Date 1/4/2017

PO Print Date 1/4/2017

Page Number 4 of 4

**Order From :**

VU-TWM001

TW METALS  
PO BOX 933014  
ALTANTA, GA 31193-3014  
US

**Ship To :** DART AEROSPACE LTD  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**Contact Name**

**Vendor Phone** 585 768 5600

**Ship To Contact**

**Ship To Phone**

**Ship Via:** YRC COLLECT

**Ship Acct:**

**Buyer**

Chantal Lavoie

**Customer POID**

**Customer Tax #**

10127-2607

**Terms**

Net 30

**Currency**

USD

**FOB**

FCA - (Free Carrier)

7	71401-45	PROCUREMENT QUALITY CLAUSES	1/12/2017	1.00	\$0.00	\$0.00
---	----------	--------------------------------	-----------	------	--------	--------

No

1/12/2017

**Procurement Quality Clauses**

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

SP17-01-11

**Line Total:** \$0.00

**PO Total:** \$582.40

**Note:** Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

**Change Nbr:** 2

**Change Date:** 1/4/2017